

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7619	((134/10) or (210/708) or (210/774) or (568/595) or (568/913) or (568/918) or (510/109) or (510/506) or (8/404) or (514/723)).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/09/28 06:50
L2	5408	ortho near2 ester	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/09/28 06:49
L3	37	I1 and I2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/09/28 06:46
L4	2346	bergstrom.in. or hellberg.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/09/28 06:47
L5	6	I2 and I4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2005/09/28 06:47
L6	442	ortho near2 ester.clm.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 06:50
L7	7000	((134/10) or (210/708) or (210/774) or (568/595) or (568/913) or (568/918) or (510/109) or (510/506) or (8/404) or (514/723)).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/09/28 06:50
L8	4	I6 and I7	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/28 06:50

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Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1204RXW

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 JUL 20 Powerful new interactive analysis and visualization software,
STN AnaVist, now available
NEWS 4 AUG 11 STN AnaVist workshops to be held in North America
NEWS 5 AUG 30 CA/CAPplus -Increased access to 19th century research documents
NEWS 6 AUG 30 CASREACT - Enhanced with displayable reaction conditions
NEWS 7 SEP 09 ACD predicted properties enhanced in REGISTRY/ZREGISTRY
NEWS 8 SEP 22 MATHDI to be removed from STN

NEWS EXPRESS JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

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result in loss of user privileges and other penalties.

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 07:09:49 ON 28 SEP 2005

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 07:10:05 ON 28 SEP 2005
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STRUCTURE FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6
DICTIONARY FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

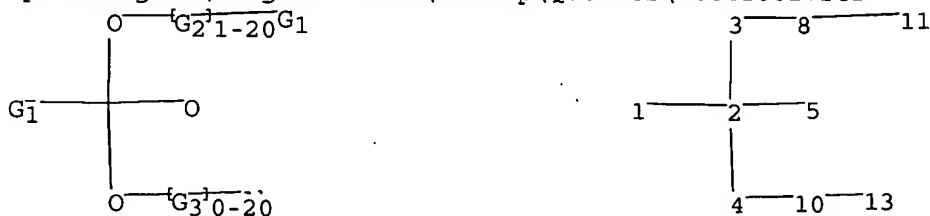
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10642882.str



chain nodes :

1 2 3 4 5 8 10 11 13

chain bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

exact/norm bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

G1:H,Ak

G2:EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3:n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Match level :

AND
2043
(polymers)

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1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 13:CLASS

L2 STRUCTURE UPLOADED

=> que L2 NOT L1

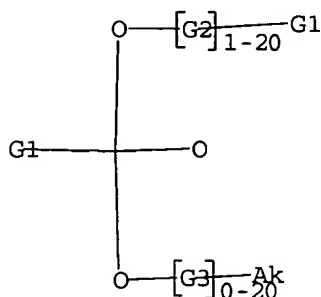
L3 QUE L2 NOT L1

=> d

L3 HAS NO ANSWERS

L1 SCR 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L2 STR



G1 H,Ak

G2 EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3 n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Structure attributes must be viewed using STN Express query preparation.

L3 QUE L2 NOT L1

=> s 13,

STRUCTURE TOO LARGE - SEARCH ENDED

A structure in your query is too large. You may delete attributes or atoms to reduce the size of the structure and try again.

=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.43

0.64

FILE 'STNGUIDE' ENTERED AT 07:10:44 ON 28 SEP 2005

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Sep 23, 2005 (20050923/UP).

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.18

0.82

FILE 'REGISTRY' ENTERED AT 07:12:24 ON 28 SEP 2005

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STRUCTURE FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6
DICTIONARY FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005. A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*
*****
```

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

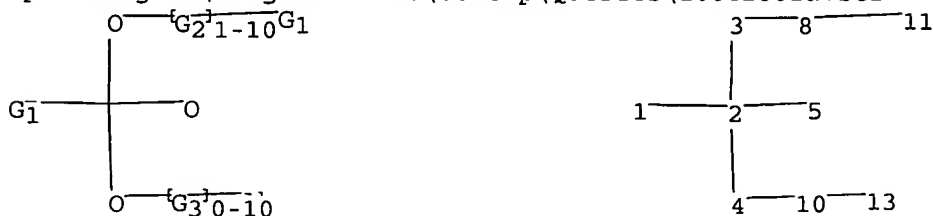
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L4 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10642882a.str



chain nodes :

1 2 3 4 5 8 10 11 13

chain bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

exact/norm bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

G1:H,Ak

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G2:EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3:n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 13:CLASS

L5 STRUCTURE UPLOADED

=> que L5 NOT L4

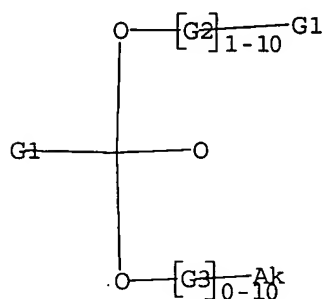
L6 QUE L5 NOT L4

=> d

L6 HAS NO ANSWERS

L4 SCR 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L5 STR



G1 H,Ak

G2 EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3 n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Structure attributes must be viewed using STN Express query preparation.

L6 QUE L5 NOT L4

=> s 16

STRUCTURE TOO LARGE - SEARCH ENDED

A structure in your query is too large. You may delete attributes or atoms to reduce the size of the structure and try again.

=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.43	1.25

FULL ESTIMATED COST

FILE 'STNGUIDE' ENTERED AT 07:13:04 ON 28 SEP 2005

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Sep 23, 2005 (20050923/UP).

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=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.18

1.43

FILE 'REGISTRY' ENTERED AT 07:14:44 ON 28 SEP 2005

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STRUCTURE FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

DICTIONARY FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

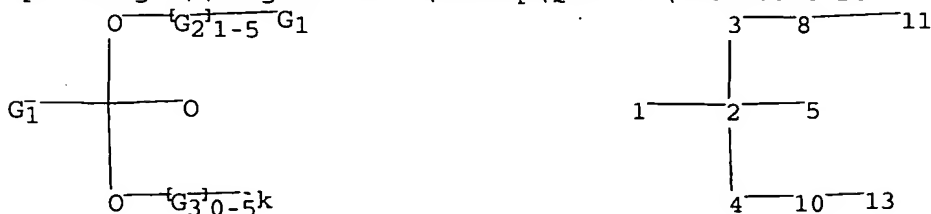
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L7 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10642882b.str



chain nodes :

1 2 3 4 5 8 10 11 13

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chain bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

exact/norm bonds :

1-2 2-3 2-4 2-5 3-8 4-10 8-11 10-13

G1:H,Ak

G2:EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3:n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 13:CLASS

L8 STRUCTURE UPLOADED

=> que L8 NOT L7

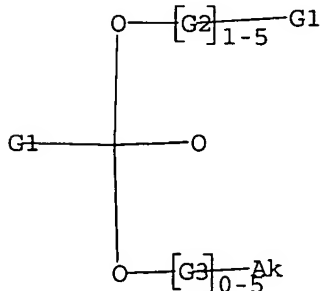
L9 QUE L8 NOT L7

=> d

L9 HAS NO ANSWERS

L7 SCR 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L8 STR



G1 H,Ak

G2 EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3 n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

Structure attributes must be viewed using STN Express query preparation.

L9 QUE L8 NOT L7

=> s 19

STRUCTURE TOO LARGE - SEARCH ENDED

A structure in your query is too large. You may delete attributes or atoms to reduce the size of the structure and try again.

=> file stnguide

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.86

2.29

FILE 'STNGUIDE' ENTERED AT 07:15:39 ON 28 SEP 2005

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Sep 23, 2005 (20050923/UP).

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.30	2.59

FILE 'REGISTRY' ENTERED AT 07:18:46 ON 28 SEP 2005
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STRUCTURE FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6
DICTIONARY FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

*
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* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

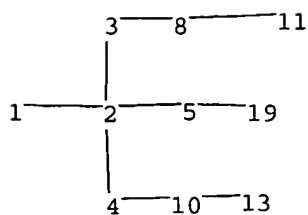
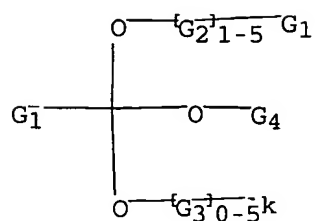
=> screen 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L10 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10642882c.str

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chain nodes :

1 2 3 4 5 8 10 11 13 19

chain bonds :

1-2 2-3 2-4 2-5 3-8 4-10 5-19 8-11 10-13

exact/norm bonds :

1-2 2-3 2-4 2-5 3-8 4-10 5-19 8-11 10-13

G1:H,Ak

G2:EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3:n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G4:O,Ak

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 13:CLASS
19:CLASS

L11 STRUCTURE UPLOADED

=> que L11 NOT L10

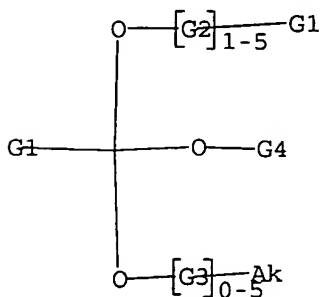
L12 QUE L11 NOT L10

=> d

L12 HAS NO ANSWERS

L10 SCR 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L11 STR



G1 H,Ak

G2 EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3 n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G4 O,Ak

10/642,882

Structure attributes must be viewed using STN Express query preparation.
L12 QUE L11 NOT L10

=> s l12

STRUCTURE TOO LARGE - SEARCH ENDED

A structure in your query is too large. You may delete attributes or atoms to reduce the size of the structure and try again.

=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.43	3.02

FILE 'STNGUIDE' ENTERED AT 07:19:21 ON 28 SEP 2005
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Sep 23, 2005 (20050923/UP).

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.18	3.20

FILE 'REGISTRY' ENTERED AT 07:21:21 ON 28 SEP 2005
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STRUCTURE FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6
DICTIONARY FILE UPDATES: 27 SEP 2005 HIGHEST RN 864057-55-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
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* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

10/642,882

<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>Testing the current file.... screen

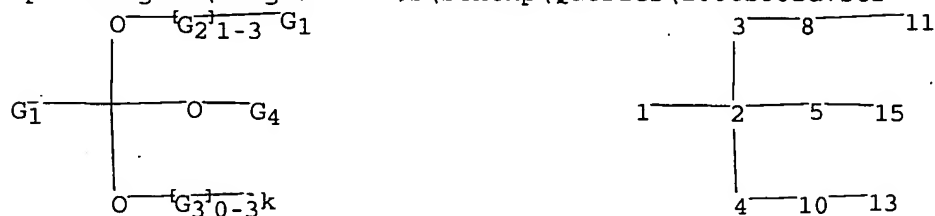
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L13 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10642882d.str



chain nodes :

1 2 3 4 5 8 10 11 13 15

chain bonds :

1-2 2-3 2-4 2-5 3-8 4-10 5-15 8-11 10-13

exact/norm bonds :

1-2 2-3 2-4 2-5 3-8 4-10 5-15 8-11 10-13

G1:H,Ak

G2:EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3:n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G4:O,Ak

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 8:CLASS 10:CLASS 11:CLASS 13:CLASS
15:CLASS

L14 STRUCTURE UPLOADED

=> que L14 NOT L13

L15 QUE L14 NOT L13

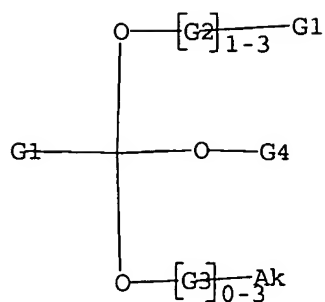
=> d

L15 HAS NO ANSWERS

L13 SCR 1992 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L14 STR

10/642,882



G1 H,Ak

G2 EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G3 n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO

G4 O,Ak

Structure attributes must be viewed using STN Express query preparation.

L15 QUE L14 NOT L13

=> s l15

SAMPLE SEARCH INITIATED 07:21:50 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 25 TO ITERATE

100.0% PROCESSED 25 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 200 TO 800

PROJECTED ANSWERS: 0 TO 0

L16 0 SEA SSS SAM L14 NOT L13

=> s l15 ful

FULL SEARCH INITIATED 07:21:57 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 502 TO ITERATE

100.0% PROCESSED 502 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

L17 0 SEA SSS FUL L14 NOT L13

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

161.76

164.96

FILE 'CAPLUS' ENTERED AT 07:22:16 ON 28 SEP 2005

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FILE COVERS 1907 - 28 Sep 2005 VOL 143 ISS 14
FILE LAST UPDATED: 27 Sep 2005 (20050927/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s ortho ester surfactant#

44193 ORTHO

566851 ESTER

219441 SURFACTANT#

L18 5 ORTHO ESTER SURFACTANT#

(ORTHO(W) ESTER(W) SURFACTANT#)

=> d 1-5 bib ab

L18 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:197197 CAPLUS

DN 142:221625

TI Cleavable ortho ester type surfactants

AU Hellberg, P.-E.; van Ginkel, C. G.

CS Stenungsund, Swed.

SO Tenside, Surfactants, Detergents (2004), 41(6), 278-281

CODEN: TSDEES; ISSN: 0932-3414

PB Carl Hanser Verlag

DT Journal; General Review

LA English

AB A review. With the focus on quaternary ammonium compds., the authors describe how the ortho ester chemical can be used as a versatile tool for synthesis of cleavable surfactants of various types. This class of chemodegradable surfactants hydrolyzes rapidly under mild acidic conditions at the same time as they are long-term stable in alkaline aqueous solns. Further, the rate of cleavage can be modified by varying the structure of the surfactant. An addnl. feature is the possibility to design surface active compds. that release a daughter surfactant with different properties upon cleavage. Ortho ester-based surfactants could be of use in a large number of applications as exemplified here. Good biodegrdn. data are of importance for virtually all types of surfactants nowadays. However, there actually seem to exist very few, if any, investigations regarding the biodegrdn. of cleavable surfactants under both hydrolytical and non-hydrolytical conditions. Data from the initial part of such a study on cationic **ortho ester surfactants** are presented and discussed. The results strongly indicate rapid biodegrdn. for this class of compds. under varying conditions.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:173568 CAPLUS

DN 138:206893

TI A nitrogen-containing ortho ester-based surfactant, its preparation and use

IN Hellberg, Per-Erik

PA Akzo Nobel NV, Neth.

10/642,882

SO PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003018534	A1	20030306	WO 2002-SE1492	20020822
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	SE 2001002799	A	20030224	SE 2001-2799	20010823
	SE 523426	C2	20040420		
	EP 1434755	A1	20040707	EP 2002-759038	20020822
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
	CN 1547569	A	20041117	CN 2002-816504	20020822
	JP 2005500902	T2	20050113	JP 2003-523199	20020822
	ZA 2004000671	A	20041015	ZA 2004-671	20040128
	US 2004198631	A1	20041007	US 2004-487972	20040220
PRAI	SE 2001-2799	A	20010823		
	WO 2002-SE1492	W	20020822		

OS MARPAT 138:206893

AB The tertiary or quaternary N-containing ortho ester-based surfactant has hydrophobic and hydrophilic parts attached by sep. ortho ester linkages. The **ortho ester surfactants** are stable in alkaline solns., but are readily hydrolyzed in acidic solns. Since the hydrophobic and the hydrophilic parts of the surfactants reside in different substituents of the ortho ester, the surface activity is lost upon hydrolysis. The low mol. weight ortho esters are used as starting materials for the surfactants. These low mol. weight ortho esters are reacted with a hydrophobic component, which is an alc. or an alkoxyated alc., and hydrophilic component, which is an alkanolamine or an alkoxyated alkanolamine. The molar amts. of the reactants are preferably 1-2 mol hydrophilic component/mol orthoester and 1-2 mol hydrophobic component/mol ortho ester. To obtain quaternary ammonium ortho esters, the amino ortho esters are reacted with an alkylating reagent such as Me chloride or di-Me sulfate. The N-containing ortho esters are surface active and form micelles, they are efficient in lowering the surface tension and have excellent wetting properties.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:39992 CAPLUS

DN 136:252395

TI Ortho ester-based surfactants for pH-triggered release in drug and gene delivery

AU Guo, Xin

CS Univ. of California, San Francisco, CA, USA

SO (2001) 160 pp. Avail.: UMI, Order No. DA3009785

From: Diss. Abstr. Int., B 2001, 62(3), 1405

DT Dissertation

LA English

10/642,882

AB Unavailable

L18 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:525322 CAPLUS

DN 133:239729

TI Nonionic cleavable **ortho ester surfactants**

AU Hellberg, Per-Erik; Bergstrom, Karin; Juberg, Malin

CS Akzo Nobel Surface Chemistry AB, Stenungsund, SE-444 85, Swed.

SO Journal of Surfactants and Detergents (2000), 3(3), 369-379

CODEN: JSDEFL; ISSN: 1097-3958

PB AOCs Press

DT Journal

LA English

AB A new class of cleavable surfactants based on the ortho ester link is described. **Ortho ester surfactants** were synthesized from a short-chain ortho ester, a fatty alc., and a poly(ethylene glycol) monomethyl ether. The triple functionality of the ortho ester link results in a mixture of surface-active and nonsurface-active species. Structures were confirmed by ¹H and ¹³C NMR. Hydrolysis characteristics at pH values ranging from 2 to 8 were determined. It was shown that, after a steep rise, hydrolysis curves flattened out before complete hydrolysis was reached. **Ortho ester surfactants** hydrolyze more rapidly than corresponding acetal surfactants. Hydrolysis rates are higher for purified samples and at higher temperature, while plateau levels are higher for the purified surfactant mixts. and at lower pH. The origin of these results is discussed. Data also indicate that the hydrolysis mechanism changes with pH. A test of the loss of emulsification capacity for an **ortho ester surfactant** with time at pH values from 2 to 11.5 and at 22 or 50°C was carried out, showing rapid breaking of the emulsion at mild acid conditions and a requirement of pH ≥ 10 for long-term stability. Surface tension and critical micelle concentration were determined for some

of the surfactant mixts. It was demonstrated that **ortho ester surfactants** possess excellent biodegrdn. properties. The new surfactants are promising candidates for use in industrial processes where temporary surfactant action is required.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:421633 CAPLUS

DN 131:60350

TI An ortho ester-based surfactant, its preparation and use in cleaning hard surfaces

IN Bergstrom, Karin; Hellberg, Per-Erik

PA Akzo Nobel N.V., Neth.

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9932424	A1	19990701	WO 1998-SE2239	19981208
	W: AU, BR, BY, CA, CN, CZ, EE, ID, IL, IN, JP, KR, LT, LV, MX, NO, NZ, PL, RO, RU, SG, SI, UA, US, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	SE 9704755	A	19990620	SE 1997-4755	19971219
	SE 513181	C2	20000724		

10/642,882

CA 2310646	AA	19990701	CA 1998-2310646	19981208
AU 9919879	A1	19990712	AU 1999-19879	19981208
AU 739404	B2	20011011		
BR 9813810	A	20001003	BR 1998-13810	19981208
EP 1042266	A1	20001011	EP 1998-964585	19981208
EP 1042266	B1	20020904		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
JP 2001526250	T2	20011218	JP 2000-525362	19981208
AT 223367	E	20020915	AT 1998-964585	19981208
US 2004039235	A1	20040226	US 2003-642882	20030818
PRAI SE 1997-4755	A	19971219		
WO 1998-SE2239	W	19981208		
US 2000-596468	B1	20000619		
OS	MARPAT 131:60350			
AB	The title ortho ester R1(A1)n1OC(R)(OR3)O(A2)n2R2 [R = H or aliphatic group with 1-7 C atoms; R1 = H or an C1-5-alkyl; A1 = alkyleneoxy group with 2-4 C atoms, ≥50% ethyleneoxy groups; n1 = 1-30; R2 = aliphatic group with 5-22 C atoms; A2 = alkyleneoxy group with 3-4 C atoms; n2 = 0-30, provided when R2 = aliphatic group with 5-6 C atoms, n2 ≥1; R3 = (A1)n1R1, (A2)n2R2, and C1-6-alkyl, or a di- or polycondensate via any of the free hydroxy groups of the ortho ester] is prepared. The ortho ester surfactants are stable in alkaline solns., but are readily hydrolyzed in acidic solns. to yield products that are not surface active. They are suitable to be used as emulsifiers or dispersants in cleaners and pesticide formulations. A cleaning composition contained 5 parts ortho ester mixture as a result of esterification of propoxylated 2-ethylhexanol 1.5, tri-Et orthoformate 1.0, and polyethylene glycol monomethyl ether 1.5 mol, 2.8 parts octyliminodipropionate, 6 parts tetrapotassium pyrophosphate, 4 parts silicate, and the balance water.			
RE.CNT 6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD			
	ALL CITATIONS AVAILABLE IN THE RE FORMAT			

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
18.72	183.68

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-2.92	-2.92

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STN INTERNATIONAL LOGOFF AT 07:24:14 ON 28 SEP 2005